

## Claims

What is claimed is:

1           1. A method of managing input/output (I/O)  
2 configurations of a computing environment, said method  
3 comprising:

4                 selecting a channel path from a plurality of  
5 channel paths to be used in adjusting an I/O  
6 configuration of said computing environment, said  
7 selecting being based on one or more characteristics  
8 associated with said channel path; and

9                 dynamically adjusting said I/O configuration using  
10 the selected channel path.

1           2. The method of claim 1, wherein said dynamically  
2 adjusting comprises attaching the selected channel path to a  
3 subsystem of said I/O configuration.

1           3. The method of claim 2, wherein said selected  
2 channel path and said subsystem are associated with a  
3 workload executing within at least one logical partition of  
4 said computing environment, and wherein the dynamically  
5 adjusting provides additional resources to said workload.

1           4. The method of claim 3, wherein said selected  
2 channel path was removed from another workload executing  
3 within at least one logical partition, thereby reducing  
4 resources of said another workload.

1           5. The method of claim 1, wherein said dynamically  
2 adjusting comprises removing attachment of the selected  
3 channel path from a subsystem of said I/O configuration.

1           6. The method of claim 1, wherein said one or more  
2 characteristics include at least one of an impact on  
3 response time, an impact on response time to achieve  
4 specific workload goals, contention on a subsystem of said  
5 I/O configuration, availability characteristics of said  
6 channel path, and complexity of the resulting I/O  
7 configuration.

1           7. The method of claim 1, further comprising  
2 determining that said I/O configuration is to be adjusted.

1           8. The method of claim 7, wherein said determining  
2 comprises using one or more workload goals in making the  
3 determination.

1           9. The method of claim 8, wherein the one or more  
2 workload goals are associated with workloads of a group of  
3 partitions of said computing environment.

1           10. The method of claim 7, wherein said determining  
2 comprises consulting with one or more workload managers of  
3 said computing environment in making the determination.

1           11. The method of claim 7, wherein said determining  
2 comprises using measured subsystem performance being within  
3 an average target range in making the determination.

1           12. The method of claim 1, further comprising  
2 projecting an impact of the adjustment on one or more  
3 subsystems to be effected by the adjustment, prior to said  
4 dynamically adjusting.

1           13. The method of claim 12, further comprising  
2 dynamically adjusting when the impact is acceptable.

1        14. A system of managing input/output (I/O)  
2 configurations of a computing environment, said system  
3 comprising:

4            means for selecting a channel path from a  
5 plurality of channel paths to be used in adjusting an  
6 I/O configuration of said computing environment, the  
7 selecting being based on one or more characteristics  
8 associated with said channel path; and

9            means for dynamically adjusting said I/O  
10 configuration using the selected channel path.

1        15. The system of claim 14, wherein said means for  
2 dynamically adjusting comprises means for attaching the  
3 selected channel path to a subsystem of said I/O  
4 configuration.

1        16. The system of claim 15, wherein said selected  
2 channel path and said subsystem are associated with a  
3 workload executing within at least one logical partition of  
4 said computing environment, and wherein the dynamically  
5 adjusting provides additional resources to said workload.

1        17. The system of claim 15, wherein said selected  
2 channel path was removed from another workload executing  
3 within at least one logical partition, thereby reducing  
4 resources of said another workload.

1        18. The system of claim 14, wherein said means for  
2 dynamically adjusting comprises means for removing  
3 attachment of the selected channel path from a subsystem of  
4 said I/O configuration.

1        19. The system of claim 14, wherein said one or more  
2 characteristics include at least one of an impact on  
3 response time, an impact on response time to achieve  
4 specific workload goals, contention on a subsystem of said  
5 I/O configuration, availability characteristics of said  
6 channel path, and complexity of the resulting I/O  
7 configuration.

1        20. The system of claim 14, further comprising means  
2 for determining that said I/O configuration is to be  
3 adjusted.

1        21. The system of claim 20, wherein said means for  
2 determining comprises means for using one or more workload  
3 goals in making the determination.

1        22. The system of claim 21, wherein the one or more  
2 workload goals are associated with workloads of a group of  
3 partitions of said computing environment.

1        23. The system of claim 20, wherein said means for  
2 determining comprises means for consulting with one or more  
3 workload managers of said computing environment in making  
4 the determination.

1        24. The system of claim 20, wherein said means for  
2 determining comprises means for using measured subsystem  
3 performance being within an average target range in making  
4 the determination.

1        25. The system of claim 14, further comprising means  
2 for projecting an impact of the adjustment on one or more  
3 subsystems to be effected by the adjustment, prior to the  
4 dynamically adjusting.

1        26. The system of claim 25, further comprising  
2 dynamically adjusting when the impact is acceptable.

1           27. A system of managing input/output (I/O)  
2 configurations of a computing environment, said system  
3 comprising:

4           a processor adapted to select a channel path from  
5 a plurality of channel paths to be used in adjusting an  
6 I/O configuration of said computing environment, the  
7 selecting being based on one or more characteristics  
8 associated with said channel path; and

9           a processor adapted to dynamically adjust said I/O  
10 configuration using the selected channel path.

1           28. At least one program storage device readable by a  
2 machine, tangibly embodying at least one program of  
3 instructions executable by the machine to perform a method  
4 of managing input/output (I/O) configurations of a computing  
5 environment, said method comprising:

6           selecting a channel path from a plurality of  
7 channel paths to be used in adjusting an I/O  
8 configuration of said computing environment, said  
9 selecting being based on one or more characteristics  
10 associated with said channel path; and

11           dynamically adjusting said I/O configuration using  
12 the selected channel path.

1           29. The at least one program storage device of claim  
2 28, wherein said dynamically adjusting comprises attaching  
3 the selected channel path to a subsystem of said I/O  
4 configuration.

1           30. The at least one program storage device of claim  
2 29, wherein said selected channel path and said subsystem  
3 are associated with a workload executing within at least one  
4 logical partition of said computing environment, and wherein  
5 the dynamically adjusting provides additional resources to  
6 said workload.



1           31. The at least one program storage device of claim  
2 30, wherein said selected channel path was removed from  
3 another workload executing within at least one logical  
4 partition, thereby reducing resources of said another  
5 workload.

1           32. The at least one program storage device of claim  
2 28, wherein said dynamically adjusting comprises removing  
3 attachment of the selected channel path from a subsystem of  
4 said I/O configuration.

1           33. The at least one program storage device of claim  
2 28, wherein said one or more characteristics include at  
3 least one of an impact on response time, an impact on  
4 response time to achieve specific workload goals, contention  
5 on a subsystem of said I/O configuration, availability  
6 characteristics of said channel path, and complexity of the  
7 resulting I/O configuration.

1           34. The at least one program storage device of claim  
2 28, wherein said method further comprises determining that  
3 said I/O configuration is to be adjusted.

1           35. The at least one program storage device of claim  
2 34, wherein said determining comprises using one or more  
3 workload goals in making the determination.

1        36. The at least one program storage device of claim  
2        35, wherein the one or more workload goals are associated  
3        with workloads of a group of partitions of said computing  
4        environment.

1        37. The at least one program storage device of claim  
2        34, wherein said determining comprises consulting with one  
3        or more workload managers of said computing environment in  
4        making the determination.

1        38. The at least one program storage device of claim  
2        34, wherein said determining comprises using measured  
3        subsystem performance being within an averaged target range  
4        in making the determination.

1        39. The at least one program storage device of claim  
2        34, wherein said method further comprises projecting an  
3        impact of the adjustment on one or more subsystems to be  
4        effected by the adjustment, prior to said dynamically  
5        adjusting.

1        40. The at least one program storage device of claim  
2        39, wherein said method further comprises dynamically  
3        adjusting when the impact is acceptable.

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